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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,832	06/01/2001	Michel Sadelain	62071(51590)	3724

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EXAMINER	
EWOLDT, GERALD R	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/872,832	SADELAIN ET AL.	
	Examiner	Art Unit	
	G. R. Ewoldt, Ph.D.	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-66* is/are pending in the application.

4a) Of the above claim(s) *10,16,17,23,26-33,37,39 and 41-66* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,11-15,18-22,24,25,34-36,38 and 40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed 8/15/05 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's amendment, remarks, and the 1.132 declaration of Dr. Richard O'Reilly, filed 8/15/05, have been entered.

2. Claims 41-66 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to non-elected inventions. Claims 10, 16, 17, 23, 26-33, 37, and 39 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to non-elected species.

Claims 1-9, 11-15, 18-22, 24, 25, 34-36, 38, and 40 read on the elected invention and are being acted upon.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-9, 11-15, 18-22, 24, 25, and 34-36, 38, and 40 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As set forth previously, the elected species of peptide "E495". Peptide E495 is disclosed but not described in the specification at page 40. In the election of species Applicant states that the sequence of the peptide is NLVMVATV and that a further description of the peptide can be found in Papanicolaou et al., *Blood*. 2003 Oct 1;102(7):2498-505. Applicant is advised that it is inappropriate to attempt to use a post-filing reference to define a claimed invention. Further, the reference fails to teach any "E495" peptide. While the reference does teach a P495 peptide, the sequence of the P495 peptide is NLVPMVATV. Accordingly, the metes and bounds of the elected invention cannot be determined.

Applicant arguments, filed 8/15/05, have been fully considered but are not found persuasive. Applicant argues that

the declaration of Dr. Richard O'Reilly discusses how the term is well-known in the art and again cites Diamond et al. (1997) and newly cites Solache et al. (1999).

A review of the declaration reveals that Dr. O'Reilly simply asserts that the E495 peptide is well-known in the art citing, Diamond et al. (1997, previously cited by Applicant) and Solache et al. (1999).

As set forth previously, while Diamond et al. teaches the NLVPMVATV peptide, said peptide is referred to as CMVpp65$_{495-503}$. There is no reference whatsoever to an "E495" peptide. Regarding Solache et al., the references teaches the NLVPMVATV peptide as "AE42". Again, there is no reference whatsoever to an "E495" peptide.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-9, 11-14, 18-22, 24, 25, and 34-36, 38, and 40 stand rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, the specification fails to show how to make the E495 peptide.

As set forth previously, a review of the specification shows that the E495 peptide is disclosed just once (at page 40). All that is disclosed is that the peptide is derived from the CMV pp65 protein. While the pp65 protein is known in the art, a search of Medline for "E495" yields no relevant results. Accordingly, the sequence of the peptide cannot be known, thus, it cannot be made.

This limited disclosure is insufficient support for the AAPC of the instant claims. *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988) indicates that the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. Given the inherent unpredictability of physiological activity and the lack of sufficient specific guidance in the specification, it would take undue trials and errors to practice, i.e., make, the claimed invention.

Applicant arguments, filed 8/15/04, have been fully considered but are not found persuasive. Applicant concedes that the Diamond et al. (1997) reference does not teach an E495 peptide. Applicant argues that, the skilled artisan would instantly recognize a CMV pp65 derived protein "E495" as starting at amino acid 495 and ending at amino acid 503.

As set forth above, an attorney's assertions alone do not comprise a persuasive argument. While it is conceivable that the skilled artisan might assume that an "E495" peptide begins at residue 495, there is no way for the skilled artisan to know where said peptide would end.

7. As set forth previously, the instant application claims the benefit of priority of U.S. Provisional Application 60/209,157, filed 6/02/00. The '157 application does not disclose the elected peptide species E495. Accordingly, the benefit of priority of the '157 application is denied. The priority date of the instant application is its filing date, 6/01/2001. Note that for search purposes the antigen of the instant claims is considered to be any CMV protein.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-9, 11-15, 18-22, 24, 25, and 34-36, 38, and 40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Latouche et al. (2000) in view of Boeckh (1999).

As set forth previously, Latouche et al. teaches an artificial antigen presenting cell comprising a human fibroblast expressing B7.1 and HLA A2.1 (which includes a human β2-microglobulin) from recombinant viruses, and presenting a T-cell specific epitope (see particularly page 405, Construction of AAPCs). Note that Claims 6, 7, 11, 12, 18, and 19, recite autologous or non-autologous, or endogenous or exogenous. These limitations, however, are only meaningful in specific contexts, i.e., a molecule is only autologous, non-autologous, endogenous, or exogenous depending on the context in which it is viewed. Thus, any molecule would be autologous in relation to its source and non-autologous in any other context. Likewise, any molecule would be endogenous in one context yet exogenous in any other. Accordingly, the limitations of the claims are met by the AAPC of the reference.

The reference teaching differs from the claimed invention only in that it does not teach the E495 (a CMV) antigen.

Boeckh teaches that CMV causes significant morbidity and mortality after hematopoietic stem cell transplantation (see particularly the abstract).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention to produce an artificial antigen presenting cell comprising a human fibroblast expressing B7.1 and HLA A2.1 (which includes a human β2-microglobulin) from recombinant viruses, and presenting a T-cell specific epitope wherein the epitope is a CMV epitope. One of ordinary skill in the art at the time the invention was made would have been motivated to employ a CMV antigen given the teachings of Boeckh that CMV causes significant morbidity and mortality after hematopoietic stem cell transplantation, thus teaching that additional tools for fighting CMV infection are needed.

Applicant arguments, filed 11/24/04, have been fully considered but are not found persuasive. Applicant argues a lack of expectation of success in producing the claimed artificial antigen presenting cells (AAPCs).

It is unclear what facet of the invention Applicant appears to think is lacking for there to be a lack of expectation of success. The primary reference teaches the entire claimed product except for the antigen of choice. The reference teaches that the AAPCs are stable and can stimulate T cells of any patient of a given HLA type. Indeed, the reference teaches, "Owing to the high efficiency of retrovirus-mediated gene transfer, stable AAPCs can be readily engineered for any HLA molecule and any specific peptide."

11. No claim is allowed.

12. This is an RCE of applicant's earlier Application No. 09/872,832. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (571) 272-0843. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841.

14. **Please Note**: Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Additionally, the Technology Center receptionist can be reached at (571) 272-1600.

10/18/05

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